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| 10/028,644 | 12/21/2001 | Steven M. Belz | 83237RRS | 4383 |

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|---|---|
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| 2612 | |

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Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/028,644 | BELZ ET AL. | |
| | Examiner | Art Unit | |
| | Nelson D. Hernandez | 2612 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *22 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-54* is/are pending in the application.

4a) Of the above claim(s) *14,15,25,35,41 and 47-54* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,16-20,23,24,27,29,33,34,36-40 and 42-46* is/are rejected.

7)☒ Claim(s) *11-13,21,22,26,28 and 30-32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/29/02 & 10/29/02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Election/Restrictions*

1. **Claims 47-54** are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on July 22, 2005.

2. Examiner noticed that **claims 14, 15, 25, 35 and 41** belong to a non-elected species (Fig. 11). For examining purposes claims 14, 15, 25, 35 and 41 are withdrawn from consideration.

### *Specification*

3. The disclosure is objected to because of the following informalities: in page 25, line 15, the word "kernal" should be written as "kernel".

Appropriate correction is required.

### *Claim Objections*

4. **Claim 3** is objected to because of the following informalities: in line 2, the word "focue" should be written as "focus". Appropriate correction is required.

5. Applicant is advised that should **claim 38** be found allowable, **claim 39** will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing

one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

6. Applicant is advised that should claim 21 be found allowable, claim 22 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**8. Claims 1, 4, 19, 33, 36-39 and 42-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kadohara, US Patent 5,909,598.**

**Regarding claim 1, Kadohara** discloses a method for using a display (Fig. 5) having a predetermined display resolution to show out of focus areas in an archival image having a greater resolution than the predetermined display resolution, the method comprising the steps of: providing a verification image sized for presentation on the display (Col. 9, line 1 – col. 10, line 62); identifying portions of the archival image that are out of focus (Col. 10, line 11 – col. 11, line 13); and, identifying the verification

image by displaying focus detecting areas controlled by switches SW1A-SW9A so that portions of the verification image that correspond to out of focus portions of the archival image are identified when the verification image is presented on the display (Col. 2, line 62 – col. 4, line 14; col. 9, line 1 – col. 11, line 13; col. 12, lines 37-55).

It is noted that in **Kadohara**, blurring is not used to identify the out of focus areas in the image being displayed in the display device. However, Kadohara teaches that the display pattern for identifying out of focus and out of exposure areas is not limited to the patterns being disclosed but can be different representations (Col. 12, lines 37-48). Therefore, one of ordinary skill in the art would find blurring the image areas representing the portions that are out of focus instead of using the pattern disclosed by Kadohara an obvious matter of design choice. By making the out-of-focus areas unrecognizable as taught by Kadohara or by blurring the out-of-focus areas as claimed, both methods provide distinct display operations for the in-focus areas and out-of-focus areas of the displayed image. Thus, the photographer properly inform of the current status of the displayed image.

**Regarding claim 4**, Kadohara as applied to claim 1 teaches processing the archival image to produce a map indicating the portions of the archival image that are out of focus (See figs. 9-11) (Col. 2, line 62 – col. 4, line 14; col. 9, line 1 – col. 11, line 13; col. 12, lines 37-55)

**Regarding claim 19**, Kadohara fails to teach that the step of blurring the verification image comprises applying at least one blur kernel to the out of focus area

with said blur kernel defined so that it creates a visible blur in the verification image when the verification image is presented on the display.

However, Official Notice is taken that the using blur kernel for blurring sub-areas in an image is notoriously well known in the art (i.e. Laplacian blur, box blur, triangle blur, Gaussian blur, etc). It would have been obvious to one or ordinary skill in the art at the time the invention was made to blur a portion of the image taught in Kadohara that is out of focus with the motivation of removing fine details in a selected image area for a particular image (as used for defective pixel correction (i.e. using interpolation for adjacent pixels in a predetermined window) and for privacy protection).

**Regarding claim 33**, Kadohara discloses a method for forming a verification image that indicates out of focus portions of an archival image using a display (Fig. 5) having a resolution that is lower than the resolution of the archival image, the method comprising the steps of: obtaining archival image capture settings at a defined moment (focal length, F-number, coefficient of defocus, etc; see col. 5, line 57 – col. 6, line 5); obtaining an electronic image at a defined moment (Using sensor SNS shown in figs. 1 and 2); using the archival image capture settings to modify the appearance of the electronic image to form a verification image matching the appearance of the archival image (Col. 2, line 62 – col. 4, line 14; col. 5, line 57 – col. 6, line 5; col. 9, line 1 – col. 11, line 13; col. 12, lines 37-55); identifying out of focus areas in the archival image (Col. 10, line 11 – col. 11, line 13) by displaying focus detecting areas controlled by switches SW1A-Sw9A so that portions of the verification image that correspond to out of focus portions of the archival image are identified when the verification image is

presented on the display (Col. 2, line 62 – col. 4, line 14; col. 9, line 1 – col. 11, line 13; col. 12, lines 37-55).

It is noted that in **Kadohara**, blurring is not used to identify the out of focus areas in the image being displayed in the display device. However, Kadohara teaches that the display pattern for identifying out of focus and out of exposure areas is not limited to the patterns being disclosed but can be different representations (Col. 12, lines 37-48). Therefore, one of ordinary skill in the art would find blurring the image areas representing the portions that are out of focus instead of using the pattern disclosed by Kadohara an obvious matter of design choice. By making the out-of-focus areas unrecognizable as taught by Kadohara or by blurring the out-of-focus areas as claimed, both methods provide distinct display operations for the in-focus areas and out-of-focus areas of the displayed image. Thus, the photographer properly inform of the current status of the displayed image.

**Regarding claim 36**, Kadohara discloses a camera (Figs. 1 and 4) system for capturing an archival image and displaying a verification image, the camera system comprising: a digital image capture system (Sensor SNS shown in figs. 1 and 2) for capturing an archival image having a predetermined imaging resolution; a display (Fig. 5) having a display resolution lower than the predetermined imaging resolution for presenting a verification image (Col. 9, line 1 – col. 10, line 62); and a signal processor (Control device PRS shown in fig. 4; col. 4, line33 – col. 6, line 5) receiving the archival image, forming the verification image, identifying portions of the archival image that are out of focus and modifying the verification image by displaying focus detecting areas

controlled by switches SW1A-SW9A so that portions of the verification image that correspond to out of focus portions of the archival image are identified when the verification image is presented on the display (Col. 2, line 62 – col. 4, line 14; col. 9, line 1 – col. 11, line 13; col. 12, lines 37-55).

It is noted that in **Kadohara**, blurring is not used to identify the out of focus areas in the image being displayed in the display device. However, Kadohara teaches that the display pattern for identifying out of focus and out of exposure areas is not limited to the patterns being disclosed but can be different representations (Col. 12, lines 37-48). Therefore, one of ordinary skill in the art would find blurring the image areas representing the portions that are out of focus instead of using the pattern disclosed by Kadohara an obvious matter of design choice. By making the out-of-focus areas unrecognizable as taught by Kadohara or by blurring the out-of-focus areas as claimed, both methods provide distinct display operations for the in-focus areas and out-of-focus areas of the displayed image. Thus, the photographer properly inform of the current status of the displayed image.

**Regarding claim 37**, Kadohara discloses that the signal processor identifies portions of the archival image that are out of focus by image analysis of the archival image by using the control unit PRS, which calculates the amount of defocus for each of the areas in the image (Col. 4, line33 – col. 6, line 5; col. 8, lines 45-60). Grounds for rejecting claim 36 apply here.

**Regarding claims 38 and 39**, Kadohara as applied in claim 36 teaches that the signal processor identifies portions of the archival image that are out of focus by using

at least one blur map by teaching identifying portions of the archival image that are out of focus and modifying the verification image by using a plurality of switches for controlling the display of out of focus areas in order to be presented in the display unit (Col. 2, line 62 – col. 4, line 14; col. 9, line 1 – col. 11, line 13; col. 12, lines 37-55). Grounds for rejecting claim 36 apply here.

**Regarding claim 42**, Kadohara discloses a camera (Figs. 1 and 4) system comprising a source of an archival image having a predetermined resolution, a verification display (Fig. 5) having an image display resolution that is lower than the predetermined resolution of the archival image (Col. 9, line 1 – col. 10, line 62) and a signal processor (Control device PRS shown in fig. 4; col. 4, line33 – col. 6, line 5), with said signal processor processing the archival image to identify out of focus portions (by displaying focus detecting areas controlled by switches SW1A-SW9A so that portions of the verification image that correspond to out of focus portions of the archival image are identified when the verification image is presented on the display) of the archival image and to form a verification image formatted for presentation on the verification display (Col. 2, line 62 – col. 4, line 14; col. 9, line 1 – col. 11, line 13; col. 12, lines 37-55).

It is noted that in **Kadohara**, blurring is not used to identify the out of focus areas in the image being displayed in the display device. However, Kadohara teaches that the display pattern for identifying out of focus and out of exposure areas is not limited to the patterns being disclosed but can be different representations (Col. 12, lines 37-48). Therefore, one of ordinary skill in the art would find blurring the image areas representing the portions that are out of focus instead of using the pattern disclosed by

Kadohara an obvious matter of design choice. By making the out-of-focus areas unrecognizable as taught by Kadohara or by blurring the out-of-focus areas as claimed, both methods provide distinct display operations for the in-focus areas and out-of-focus areas of the displayed image. Thus, the photographer properly inform of the current status of the displayed image.

**Regarding claims 43, 45 and 46**, Kadohara fails to teach that the source of the archival images comprises a camera connected to the signal processor by way of an electronic data communications network, wherein the camera is a digital camera or an analog camera connected to an analog to digital converter.

However, Official Notice is taken that sending images captured by a camera to an image processor (i.e. pc or host computer) by way of an electronic data communications network, wherein the camera may be an analog camera connected to a A/D converter for further transmission through the network or a digital camera is notoriously well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kadohara by having a camera sending the archival image to a signal processor connected by an electronic data communication network to process the archival image. The motivation to do so would enable the user to process images captured from a remote location and to reduce the size of the image-capturing device.

**Regarding claim 44**, Kadohara fails to teach that the source of the archival images comprises an analog camera connected to the signal processor by way of an electronic data-communicating network.

However, Official Notice is taken that sending images captured by an analog camera to an image processor (i.e. pc or host computer) by way of an electronic data communications network (i.e. live transmissions) is notoriously well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kadohara by having an analog camera sending the archival image to a signal processor connected by an electronic data communication network to process the archival image. The motivation to do so would enable the user to process images captured from a remote location and to reduce the size of the image-capturing device.

**9. Claims 2, 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kadohara, US Patent 5,909,598 in view of Nafarieh, US Patent 6,252,994 B1.**

**Regarding claim 2**, Kadohara does not disclose that the step of providing the verification image comprises subjecting the archival image to a frequency domain transform to generate AC frequency domain transform coefficients; and using the AC frequency transform coefficients to form the verification image.

However, Nafarieh teaches a method of classifying sub-areas in images in a block-by-block basis wherein the image is subjected to a frequency domain transform (Discrete Cosine Transform, "DCT") to generate AC frequency domain transform coefficients that are used to form a second image, wherein said coefficients are compared to a threshold level in order to classify each blocks into different levels of high and low frequency AC components (This is used to determine the smooth and detailed textured portions in an image, see fig. 6) (Col. 1, lines 39-65; col. 2, lines 13-38; col. 7,

lines 48-60; col. 8, lines 13-52; col. 11, lines 30-60; col. 12, lines 12-50; col. 13, lines 18-36).

Therefore, taking the combined teaching of Kadohara in view of Nafarieh as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kadohara by subjecting the archival image to a frequency domain transform to generate AC frequency domain transform coefficients; and using the AC frequency transform coefficients to form the verification image. The motivation to do so would have been to determine the smooth and detailed portions in an image as suggested by Nafarieh (Col. 8, lines 13-52), and also to identify out of focus portions in the image's sub-areas since out of focus areas are less detailed than the focused areas.

**Regarding claim 3**, limitations can be found in claim 2.

**Regarding claim 5**, limitations can be found in claim 2.

**10. Claims 6, 16, 20 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kadohara, US Patent 5,909,598 in view of Murakami, US Patent 6,359,650 B1.**

**Regarding claim 6**, Kadohara fails to teach that the step of blurring the verification image further comprises modifying the verification image so that when the verification image is presented on the display, portions of the verification image that correspond to portions of the archival image that are relatively more out of focus appear to be more out-of-focus than portions of the archival image that are relatively less out of focus.

However, Murakami teaches an electronic camera (Fig. 1) comprising: a focus detection means for dividing the object image displayed in the display device into a plurality of areas (See figs. 4A, 5, 6A, 6B and 7), wherein said display device display focus detection information in said plurality of areas and said display focus detection information is displayed as key-shaped line marks and displaying patterns (1) to (4) representing the degree of an out of focus state (See figs. 6A and 6B) (Col. 3, lines 35-63; col. 6, line 52 – col. 8, line 19).

Therefore, taking the combined teaching of Kadohara in view of Murakami as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to display patterns representing the degree of an out of focus state in the image being captured. The motivation to do so would help the camera to perform accurate focus adjustment on the entire image pick-up surface as suggested by Murakami (Col. 2, lines 12-14).

Although the Murakami's method of identifying different focus states in the image areas is not by blurring said areas, one of ordinary skill in the art would find identifying different focus states in the image areas by blurring instead of using the method disclosed by Murakami an obvious matter of design choice. By making the out-of-focus areas unrecognizable as taught by Murakami or by blurring the out-of-focus areas as claimed, both methods provide distinct display operations for the in-focus areas and out-of-focus areas of the displayed image. Thus, the photographer properly inform of the current status of the displayed image.

**Regarding claim 16**, Kadohara fails to teach that the step of identifying the extent to which portions of the archival image are out of focus wherein the steps of providing a verification image and blurring the verification image comprises adaptively resampling the archival image to form a verification image having corresponding portions that appear to be proportionately more out of focus.

However, Murakami teaches an electronic camera (Fig. 1) comprising: a focus detection means for dividing the object image displayed in the display device into a plurality of areas (See figs. 4A, 5, 6A, 6B and 7), wherein said display device display focus detection information in said plurality of areas and said display focus detection information is displayed as key-shaped line marks and displaying patterns (1) to (4) representing different degrees of an out of focus state (See figs. 6A and 6B) (Col. 3, lines 35-63; col. 6, line 52 – col. 8, line 19).

Therefore, taking the combined teaching of Kadohara in view of Murakami as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to display patterns representing the degree of an out of focus state in the image being captured. The motivation to do so would help the camera to perform accurate focus adjustment on the entire image pick-up surface as suggested by Murakami (Col. 2, lines 12-14).

Although the Murakami's method of identifying different focus states in the image areas is not by blurring said areas, one of ordinary skill in the art would find identifying different focus states in the image areas by blurring instead of using the method disclosed by Murakami an obvious matter of design choice. By making the out-of-focus

areas unrecognizable as taught by Murakami or by blurring the out-of-focus areas as claimed, both methods provide distinct display operations for the in-focus areas and out-of-focus areas of the displayed image. Thus, the photographer properly inform of the current status of the displayed image.

**Regarding claim 20**, Kadohara fails to teach identifying the extent to which portions of the archival image are out of focus wherein more than one blur kernel is applied to the verification image with each of the blur kernels inducing a different relative amount of apparent blur in the verification image and with the blur kernels applied so that portions of the verification image that are more out of focus appear to be proportionately more out of focus.

However, Murakami teaches an electronic camera (Fig. 1) comprising: a focus detection means for dividing the object image displayed in the display device into a plurality of areas (See figs. 4A, 5, 6A, 6B and 7), wherein said display device display focus detection information in said plurality of areas and said display focus detection information is displayed as key-shaped line marks and displaying patterns (1) to (4) representing different degrees of an out of focus state (See figs. 6A and 6B) (Col. 3, lines 35-63; col. 6, line 52 – col. 8, line 19).

Therefore, taking the combined teaching of Kadohara in view of Murakami as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to display patterns representing the degree of an out of focus state in the image being captured. The motivation to do so would help the camera to perform

accurate focus adjustment on the entire image pick up surface as suggested by Murakami (Col. 2, lines 12-14).

Although the Murakami's method of identifying different focus states in the image areas is not by blurring said areas, one of ordinary skill in the art would find identifying different focus states in the image areas by blurring instead of using the method disclosed by Murakami an obvious matter of design choice. By making the out-of-focus areas unrecognizable as taught by Murakami or by blurring the out-of-focus areas as claimed, both methods provide distinct display operations for the in-focus areas and out-of-focus areas of the displayed image. Thus, the photographer properly inform of the current status of the displayed image.

**Regarding claim 40**, Kadohara fails to teach that the signal processor identities portions of the archival image that are relatively more out of focus and relatively less out of focus and modifies the verification image so that areas that are more out of focus appear to be more out of focus when displayed on the display.

However, Murakami teaches an electronic camera (Fig. 1) comprising: a focus detection means for dividing the object image displayed in the display device into a plurality of areas (See figs. 4A, 5, 6A, 6B and 7), wherein said display device display focus detection information in said plurality of areas and said display focus detection information is displayed as key-shaped line marks and displaying patterns (1) to (4) representing different degrees of an out of focus state (See figs. 6A and 6B) (Col. 3, lines 35-63; col. 6, line 52 – col. 8, line 19).

Therefore, taking the combined teaching of Kadohara in view of Murakami as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to display patterns representing the degree of an out of focus state in the image being captured. The motivation to do so would help the camera to perform accurate focus adjustment on the entire image pick up surface as suggested by Murakami (Col. 2, lines 12-14).

Although the Murakami's method of identifying different focus states in the image areas is not by blurring said areas, one of ordinary skill in the art would find identifying different focus states in the image areas by blurring instead of using the method disclosed by Murakami an obvious matter of design choice. By making the out-of-focus areas unrecognizable as taught by Murakami or by blurring the out-of-focus areas as claimed, both methods provide distinct display operations for the in-focus areas and out-of-focus areas of the displayed image. Thus, the photographer properly inform of the current status of the displayed image.

**11. Claims 7, 8 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kadohara, US Patent 5,909,598 in view of Minami US 2001/0016680 A1.**

**Regarding claim 7**, Kadohara discloses generating a luminance image based upon the archival image (Col. 2, line 62 – col. 4, line 14; col. 9, line 1 – col. 11, line 13; col. 12, lines 37-55) but fails to teach that the step of identifying the out of focus portions of the archival image comprises the steps of: creating a high pass image of the luminance image, resampling the high pass luminance image to form a high pass

luminance image at display resolution, using the threshold test to generate a blur selection map, and using the blur selection map to identify portions of the archival image that are out of focus.

However, Minami teaches an imaging device (Fig. 1) performing focusing by using a band pass filter (Fig. 1: 30) for extracting a high-pass component of the video signal for judging whether any of a plurality of areas in the image (See fig. 6) is focused or defocused by comparing the high-pass component with a reference level. Minami also teaches displaying the image based on the detected focus states (by teaching displaying the image, Minami teaches resampling the image being applied to the high-pass filter to fit into the monitor resolution) (Page 2, ¶ 0037; page 3, ¶ 0042-0049; page 4, 0050-0055; page 5, ¶ 0063).

Therefore, taking the combined teaching of Kadohara in view of Minami as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kadohara by creating a high pass image of the luminance image, resampling the high pass luminance image to form a high pass luminance image at display resolution, using the threshold test to generate a blur selection map, and using the blur selection map to identify portions of the archival image that are out of focus. The motivation to do so would have been to correct blurred portions in the image when enlarging the image being captured so as to obtain an entirely excellent image as suggested by Minami (Page 4, ¶055).

**Regarding claim 8**, limitations can be found in claim 7.

**Regarding claim 23**, Kadohara discloses a method for forming a verification image that indicates out of focus portions of an archival image using a display (Fig. 5) having a resolution that is lower than the resolution of the archival image (Col. 9, line 1 – col. 10, line 62), the method comprising the steps of: obtaining an archival image (Using sensor unit SNS shown in figs. 1 and 2); generating a luminance image based upon the obtained archival image (Col. 2, line 62 – col. 4, line 14; col. 9, line 1 – col. 11, line 13; col. 12, lines 37-55); providing a display resolution image matching the appearance of the archival image (Col. 9, line 1 – col. 10, line 62); generating a focusing map corresponding to the image for identifying the verification image by displaying focus detecting areas controlled by switches SW1A-SW9A so that portions of the verification image that correspond to out of focus portions of the archival image are identified when the verification image is presented on the display (Col. 2, line 62 – col. 4, line 14; col. 9, line 1 – col. 11, line 13; col. 12, lines 37-55).

It is noted that in **Kadohara**, blurring is not used to identify the out of focus areas in the image being displayed in the display device. However, Kadohara teaches that the display pattern for identifying out of focus and out of exposure areas is not limited to the patterns being disclosed but can be different representations (Col. 12, lines 37-48). Therefore, one of ordinary skill in the art would find blurring the image areas representing the portions that are out of focus instead of using the pattern disclosed by Kadohara an obvious matter of design choice. By making the out-of-focus areas unrecognizable as taught by Kadohara or by blurring the out-of-focus areas as claimed, both methods provide distinct display operations for the in-focus areas and out-of-focus

areas of the displayed image. Thus, the photographer properly inform of the current status of the displayed image.

Kadohara fails to teach resampling the luminance image to form a high pass luminance image at display resolution; generating a blur map corresponding to the resampled display resolution image by applying a threshold test to the high pass luminance image; and blurring the display resolution image in accordance with the blur map resolution image so that out of focus areas in the display resolution image appear to be out of focus when viewed on the display.

However, Minami teaches an imaging device (Fig. 1) performing focusing by using a band pass filter (Fig. 1: 30) for extracting a high-pass component of the video signal for judging weather any of a plurality of areas in the image (See fig. 6) is focused or defocused by comparing the high-pass component a reference level, also teaches displaying the image based on the detected focus states (by teaching displaying the image, Minami teaches resampling the image being applied to the high-pass filter to fit into the monitor resolution) (Page 2, ¶ 0037; page 3, ¶ 0042-0049; page 4, 0050-0055; page 5, ¶ 0063).

Therefore, taking the combined teaching of Kadohara in view of Minami as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kadohara by creating a high pass image of the luminance image, resampling the high pass luminance image to form a high pass luminance image at display resolution, using the threshold test to generate a blur selection map, and using the blur selection map to identify portions of the archival image that are out of

focus. The motivation to do so would have been to correct blurred portions in the image when enlarging the image being captured so as to obtain an entirely excellent image as suggested by Minami (Page 4, ¶055).

**12. Claims 9, 10, 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kadohara, US Patent 5,909,598 in view of Minami US 2001/0016680 A1 and further in view of Murakami, US Patent 6,359,650 B1.**

**Regarding claim 9**, the combined teaching of Kadohara in view of Minami fails to teach that the step of blurring the verification image further comprises the step of modifying the verification image so that when the verification image is displayed, portions of the verification image that correspond to portions of the archival image that are relatively more out of focus appear to be more out of focus than portions of the verification image that are relatively less out of focus.

However, Murakami teaches an electronic camera (Fig. 1) comprising: a focus detection means for dividing the object image displayed in the display device into a plurality of areas (See figs. 4A, 5, 6A, 6B and 7), wherein said display device display focus detection information in said plurality of areas and said display focus detection information is displayed as key-shaped line marks and displaying patterns (1) to (4) representing the degree of an out of focus state (See figs. 6A and 6B) (Col. 3, lines 35-63; col. 6, line 52 – col. 8, line 19).

Therefore, taking the combined teaching of Kadohara in view of Minami and further in view of Murakami as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to display patterns representing the

degree of an out of focus state in the image being captured. The motivation to do so would help the camera to perform accurate focus adjustment on the entire image pick up surface as suggested by Murakami (Col. 2, lines 12-14).

Although the Murakami's method of identifying different focus states in the image areas is not by blurring said areas, one of ordinary skill in the art would find identifying different focus states in the image areas by blurring instead of using the method disclosed by Murakami an obvious matter of design choice. By making the out-of-focus areas unrecognizable as taught by Murakami or by blurring the out-of-focus areas as claimed, both methods provide distinct display operations for the in-focus areas and out-of-focus areas of the displayed image. Thus, the photographer properly inform of the current status of the displayed image.

**Regarding claim 10**, the combined teaching of Kadohara in view of Minami fails to teach adaptively resampling the archival image based upon the blur selection map.

However, Murakami teaches an electronic camera (Fig. 1) comprising: a focus detection means for dividing the object image displayed in the display device into a plurality of areas (See figs. 4A, 5, 6A, 6B and 7), wherein said display device display focus detection information in said plurality of areas and said display focus detection information is displayed as key-shaped line marks and displaying patterns (1) to (4) representing different degrees of an out of focus state (See figs. 6A and 6B) (Col. 3, lines 35-63; col. 6, line 52 – col. 8, line 19).

Therefore, taking the combined teaching of Kadohara in view of Murakami as a whole, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to display patterns representing the degree of an out of focus state in the image being captured. The motivation to do so would help the camera to perform accurate focus adjustment on the entire image pick up surface as suggested by Murakami (Col. 2, lines 12-14).

Although the Murakami's method of identifying different focus states in the image areas is not by blurring said areas, one of ordinary skill in the art would find identifying different focus states in the image areas by blurring instead of using the method disclosed by Murakami an obvious matter of design choice. By making the out-of-focus areas unrecognizable as taught by Murakami or by blurring the out-of-focus areas as claimed, both methods provide distinct display operations for the in-focus areas and out-of-focus areas of the displayed image. Thus, the photographer properly inform of the current status of the displayed image.

**Regarding claim 27**, the combined teaching of Kadohara in view of Minami fails to teach applying more than one threshold to the high pass display resolution display image to generate multiple blur maps and comparing the blur maps to identify portions of the archival image that are more out of focus than other portions of the archival image that are out of focus.

However, Murakami teaches an electronic camera (Fig. 1) comprising: a focus detection means for dividing the object image displayed in the display device into a plurality of areas (See figs. 4A, 5, 6A, 6B and 7), wherein said display device display focus detection information in said plurality of areas and said display focus detection information is displayed as key-shaped line marks and displaying patterns (1) to (4)

representing the degree of an out of focus state (See figs. 6A and 6B) (Col. 3, lines 35-63; col. 6, line 52 – col. 8, line 19).

Therefore, taking the combined teaching of Kadohara in view of Murakami as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to display patterns representing the degree of an out of focus state in the image being captured. The motivation to do so would help the camera to perform accurate focus adjustment on the entire image pick up surface as suggested by Murakami (Col. 2, lines 12-14).

Although the method of identifying different focus states in the image areas in Murakami is not by applying more than one threshold to the high pass display resolution display image to generate multiple blur maps and comparing the blur maps to identify portions of the archival image that are more out of focus, one of ordinary skill in the art would find identifying different focus states in the image areas by applying more than one threshold to the high pass display resolution display image to generate multiple blur maps and comparing the blur maps to identify portions of the archival image that are more out of focus instead of using the method disclosed by Murakami an obvious matter of design choice. By making the out-of-focus areas unrecognizable as taught by Murakami or by blurring the out-of-focus areas as claimed, both methods provide distinct display operations for the in-focus areas and out-of-focus areas of the displayed image. Thus, the photographer properly inform of the current status of the displayed image.

**Regarding claim 29**, the combined teaching of Kadohara in view of Minami fails to teach that providing the display resolution image and blurring the display resolution image comprise adaptively resampling the archival image in accordance with the blur map.

However, Murakami teaches an electronic camera (Fig. 1) comprising: a focus detection means for dividing the object image displayed in the display device into a plurality of areas (See figs. 4A, 5, 6A, 6B and 7), wherein said display device display focus detection information in said plurality of areas and said display focus detection information is displayed as key-shaped line marks and displaying patterns (1) to (4) representing different degrees of an out of focus state (See figs. 6A and 6B) (Col. 3, lines 35-63; col. 6, line 52 – col. 8, line 19).

Therefore, taking the combined teaching of Kadohara in view of Murakami as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to display patterns representing the degree of an out of focus state in the image being captured. The motivation to do so would help the camera to perform accurate focus adjustment on the entire image pick up surface as suggested by Murakami (Col. 2, lines 12-14).

Although the Murakami's method of identifying different focus states in the image areas is not by blurring said areas, one of ordinary skill in the art would find identifying different focus states in the image areas by blurring instead of using the method disclosed by Murakami an obvious matter of design choice. By making the out-of-focus areas unrecognizable as taught by Murakami or by blurring the out-of-focus areas as

claimed, both methods provide distinct display operations for the in-focus areas and out-of-focus areas of the displayed image. Thus, the photographer properly inform of the current status of the displayed image.

**13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kadohara, US Patent 5,909,598 in view of Cok, US Patent 4,642,678.**

**Regarding claim 17**, Kadohara teaches defining at least one set of subdivisions within each out of focus area of the verification image but fails to teach averaging the chrominance and luminance values within each sub-division, and wherein the size of the subdivisions is defined so that they create a visible blur in the verification image when the verification image is presented on the display.

However, averaging the chrominance and luminance values within each sub-division, and defining the size of the subdivisions to create a visible blur in a sub-area of an image presented on a display is notoriously well known in the art as taught by Cok. Cok teaches that the luminance and chrominance values of different image sub-areas (See areas of different sizes in fig. 6) are averaged (interpolated) with the purpose of reducing the appearance of color fringes in areas of fine image detail without introducing unwanted hue shifts (Col. 2, lines 25-28; col. 3, lines 42-51; col. 4, lines 48-53; col. 5, lines 16 – col. 7, line 61; col. 8, lines 7-42).

Therefore, taking the combined teaching of Kadohara in view of Cok as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kadohara by averaging the chrominance and luminance values within each sub-division, and wherein the size of the subdivisions are defined in order to

reduce the appearance of color fringes in areas of fine image detail without introducing unwanted hue shifts as suggested by Cok (Col. 2, lines 25-28).

Although Cok does not teach that the average of chrominance and luminance values is made to create a visible blur image, Official Notice is taken that averaging image signals for blurring or smoothing images is notoriously well known in that art. It would have been obvious of one of ordinary skill in the art to blur the image sub-areas by averaging the image signals in the areas that are out of focus with the motivation of identifying the out of focus areas so the user can be informed of which areas need to be corrected.

**14. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kadohara, US Patent 5,909,598 in view of Cok, US Patent 4,642,678 and further in view of Murakami, US Patent 6,359,650 B1.**

**Regarding claim 18**, the combined teaching of Kadohara in view of Cok fails to teach identifying the extent to which portions of the archival image are out of focus and wherein proportionately larger subdivisions are defined within portions of the verification image that are relatively more out of focus and wherein smaller subdivisions are defined within portions of the verification image that are more in focus.

However, Murakami teaches an electronic camera (Fig. 1) comprising: a focus detection means for dividing the object image displayed in the display device into a plurality of areas (See figs. 4A, 5, 6A, 6B and 7), wherein said display device display focus detection information in said plurality of areas and said display focus detection information is displayed as key-shaped line marks and displaying patterns (1) to (4)

representing different degrees of an out of focus state (See figs. 6A and 6B) (Col. 3, lines 35-63; col. 6, line 52 – col. 8, line 19).

Therefore, taking the combined teaching of Kadohara in view of Cok and further in view of Murakami as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to display patterns representing the degree of an out of focus state in the image being captured. The motivation to do so would help the camera to perform accurate focus adjustment on the entire image pick up surface as suggested by Murakami (Col. 2, lines 12-14).

Although the method of identifying different focus states in the image areas in Murakami is not by changing the sizes of the subdivisions being averaged for producing a blur effect, one of ordinary skill in the art would find identifying different focus states in the image areas by changing the size of the sub-divisions being averaged instead of using the method disclosed by Murakami an obvious matter of design choice. By making the out-of-focus areas unrecognizable as taught by Murakami or by blurring the out-of-focus areas as claimed, both methods provide distinct display operations for the in-focus areas and out-of-focus areas of the displayed image. Thus, the photographer properly inform of the current status of the displayed image.

**15. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kadohara, US Patent 5,909,598 in view of Minami US 2001/0016680 A1 and further in view of Anderson, US Patent 5,745,175.**

**Regarding claim 24**, the combined teaching of Kadohara in view or Minami teaches applying a high pass filter to the archival image but fails to teach that the high pass filter is a finite impulse response high pass filter.

However, the use of finite impulse response (FIR) high pass filters to calculate contrast and focus values in an image is well known in the art as taught by Anderson. Anderson teaches the use of finite impulse response high pass filter to calculate contrast and an average brightness in an image being captured (Col. 3, lines 31-44; col. 7, lines 7-40).

Therefore, taking the combined teaching of Kadohara in view of Minami and further in view of Anderson as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a finite impulse response high pass filter to the archival image. The motivation to do so would have been to calculate contrast and an average brightness in an image being captured so as to perform focusing in order to produce images more focused and with better exposure as suggested by Anderson (Col. 3, lines 31-44).

**16. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kadohara, US Patent 5,909,598 in view of Inoue, US Patent 5,710,954.**

**Regarding claim 34**, Kadohara fails to teach that the archival image is captured by an archival image-capturing system and the electronic image is captured by an electronic image capture system.

However, Inoue teaches a camera system having a function for photographing images linked to electronic images wherein a verification image can be captured using

an image capture system (Fig. 1: 15) that is separate from that used to capture the archival image (Fig. 1: 10), wherein the archival image being captured can be monitored by using a display (Fig. 1: 21) so the user can perform different operations (i.e. focus control, exposure control, etc) to be applied to the archival image (Col. 6, line 46 – col. 7, line 28; col. 8, lines 13-38; col. 10, line 17 – col. 11, line 40).

Therefore, taking the combined teaching of Kadohara in view of Inoue as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kadohara by capturing the archival with an archival image-capturing system and the electronic image is captured by an electronic image capture system. The motivation to do so would have been to allow the user perform different operations (i.e. focus control, exposure control, etc) to be applied to the archival image prior to capturing said archival image as suggested by Inoue (Col. 6, line 46 – col. 7, line 28; col. 8, lines 13-38; col. 10, line 17 – col. 11, line 40).

***Allowable Subject Matter***

17. **Claims 11-13, 21, 22, 26, 28 and 30-32** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

18. The following is a statement of reasons for the indication of allowable subject matter:

**Regarding claim 11**, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest using a contrast sensitivity function, based upon the distance from the viewer to the display and the imaging

resolution and the size of the display, to determine the extent to which portions of the verification image must be blurred so that they appear out of focus when the verification image is displayed on the display, in conjunction with limitations in claim 1.

**Regarding claim 21**, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest detecting a digital zoom setting wherein the step of identifying out of focus portions comprise identifying portions of the archival image that will be out of focus when the archival image is enlarged to the digital zoom setting, in conjunction with limitations in claim 1.

**Regarding claim 22**, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest detecting a digital zoom setting wherein the step of identifying out of focus portions comprise identifying portions of the archival image that will be out of focus when the archival image is enlarged to the anticipated output size, in conjunction with limitations in claim 1.

**Regarding claim 26,** the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest that the threshold is determined by applying a histogram to the display resolution high-pass luminance image and determining a threshold value that identifies a predetermined percentage of the image data as being out of focus, in conjunction with limitations in claims 23 and 24.

**Regarding claim 30**, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest that the step of generating a blur map further comprises detecting a digital zoom signal and selecting a threshold based upon the digital zoom signal, in conjunction with limitations in claim 23.

**Regarding claim 31**, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest that the step of generating a blur map further comprises detecting a pseudo zoom setting and selecting a threshold based upon the pseudo zoom signal, in conjunction with limitations in claim 23.

**Regarding claim 32**, the main reason for indication of allowable subject matter is because the prior art fails to teach or reasonably suggest that the step of generating a blur map further comprises detecting a setting indicating the anticipated size of the rendered output image and selecting a threshold based upon the signal, in conjunction with limitations in claim 23.

### *Contact*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernandez whose telephone number is (571) 272-7311. The examiner can normally be reached on 8:30 A.M. to 6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc Yen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Nelson D. Hernandez
Examiner
Art Unit 2612

NDHH
October 19, 2005

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PRIMARY EXAMINER